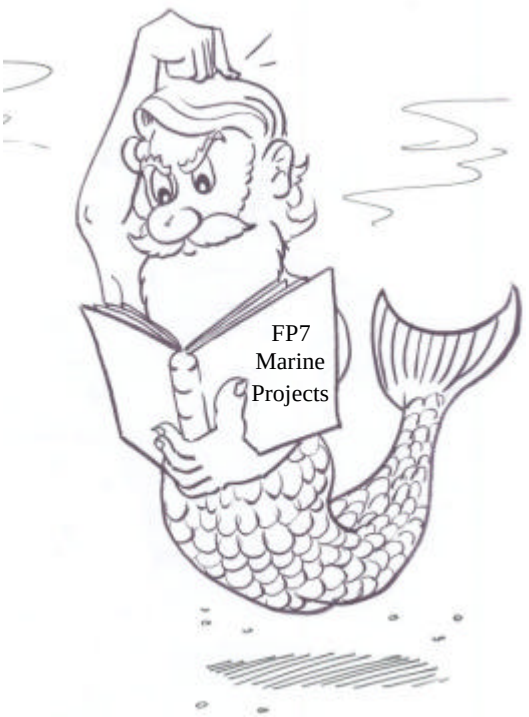
The 7th EU Framework Programme
2007 – 2013

# Irish participation in EU FP7 funded competitive marine research projects during the period 2007 – 2008




## June 2009.

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**Marine Institute – International Co-Operation Team**

# ABSTRACT

The EU Framework Research Programme (FP) is a major source of competitive marine R & D funding for Irish Researchers.

This report describes Irish marine research successes in the first two years (2007-2008) of the seven year 7th Framework Programme (FP7: 2007-2013). Irish researchers are currently participating in 22 collaborative marine research projects worth over €163 million of which €8.8 million goes to Irish researchers by way of grant-aid.

This European grant-aid in turn contributes to the implementation of research priorities identified in the national *Strategy for Science, Technology and Innovation* (SSTI: 2006-2013) and its marine component, the *Sea Change* Strategy (2007-2013). The Irish drawdown of EU grant-aid for marine research represents an impressive 10% of the Irish total drawdown over the period 2007-2008.


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"*to undertake, to co-ordinate, to promote and to assist in marine research and development and to provide such services related to research and development that, in the opinion of the Institute, will promote economic development and create employment and protect the marine environment*"

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# Foreword

**FORWARD**

Irish marine researchers, representing both the public and private sectors, actively participate in and compete successfully for EU project grant-aid under the 7th EU Research Framework Programme (FP7: 2007-2013). In the first two years of the seven year 7th Framework Programme (2007-2008), Irish researchers are participating in 22 internationally competitive marine research projects, many at the cutting edge of marine science and technology, and drawing down external grant-aid in excess of €8.8 million.

This level of activity compares very well with the level of activity in the previous five year FP6 Programme (2002-2006) (59 projects - €10.6 million in grant-aid) and is in line with targets set by the national *Strategy for Science, Technology and Innovation* (SSTI: 2006-2013) and advocated by the Advisory Council for Science Technology and Innovation (ACSTI) for increased participation in FP7.

Participation in internationally competitive marine funding programmes contributes significantly to further developing national research and innovation capacity and to fulfilling the aims of the *Sea Change* Strategy (*a Marine Knowledge, Research and Innovation Strategy for Ireland: 2007-2013*) which represents the marine component of the SSTI. To-date, international marine funding programmes (e.g. FP7, INTERREG-IV, etc) have contributed some 14% of the current €100 million commitment to address *Sea Change* priorities.

It is important to note that much of the capacity, including expert personnel and specialist research infrastructures, that enables this competitiveness can trace its origin to far-sighted investment in the marine research sector supported under the National Development Plan (2000-2006).

The 22 Projects described here, spanning a wide range of topic areas, demonstrate that Ireland has a vibrant, dynamic and internationally competitive marine research community. They also contribute to meeting the aims of the SSTI Vision that:

> *"Ireland by 2013 will be internationally renowned for the excellence of its research and will be at the forefront in generating and using new knowledge for economic and social progress within an innovation driven culture".*

Yvonne Shields
Director: Strategic Planning & Innovation Services

# Introduction

The main aim of this short Report is to record and document Irish participation in competitive marine research projects supported under the EU 7th Framework Programme (FP7: 2007-2013) during the first two years of its operation (i.e. 2007-2008). It can also help to identify further opportunities as well as gaps in our national marine research capacities.

In the first two years of the seven year FP7 Programme, Irish researchers are participating in 22 competitive marine research projects worth over €8.8 million in grant-aid. This level of activity compares very well with the €10.6 million grant-aid (59 projects) won in the five year period of the FP6 Programme (2002-2006)[1] and is in line with targets set by the national Strategy for Science, Technology and Innovation (SSTI: 2006-2013) for increased participation in FP7.

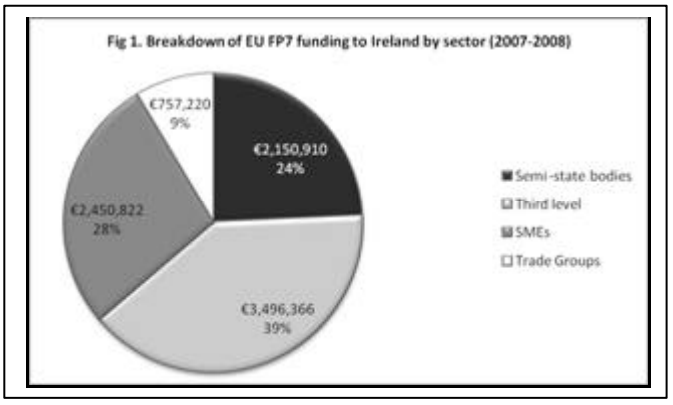
Participation in FP7 projects is not just about grant-aid. Participation in collaborative international research projects brings significant benefits in a range of areas. It:

- adds significant value to national research funding investments;
- ensures that national research efforts are meeting the most demanding international standards;
- facilitates the achievement of the necessary scale of effort whereby national research priorities can be more effectively addressed;
- supports the mobility of scientists, enhances domestic quality, stimulates innovative thinking and enhances skills;
- supports large-scale research at a regional level.
- helps to avoid unnecessary duplication and fragmentation of efforts;
- enhances access to international state-of-the-art research facilities;
- can lead to deeper alliances and commercial opportunities.

## Some FP7 Facts and Figures

- Irish researchers are involved in 22 collaborative marine research projects worth over €163 million in project costs and are in direct receipt of €8.8 million of grant-aid.

- Irish researchers are performing particularly well in four of the FP7 Specific Themes: Environment (7 projects - €2,920k); Transport (4 projects - €1,440k); Energy (2 projects- €1,556k) and Food (3 projects - €503k).




- There is considerable scope for improving Irish marine participation in the FP7 Ideas, People and Capacities Programmes.

- Two public research institutes (MI, CFP), four third level institutes (UCC, NUIG, UL, IoT-Dundalk), two representative bodies (IEA, CILT) and eleven Irish SMEs (Annex 1) are currently participating in FP7 and co-operating with over 290 foreign research centres and SMEs.

1 [1]Oceans of Opportunity-II. Exploring Ireland's International Marine Research Partnerships (Marine Institute, 2007). 76pp.

- Three projects (CORES, CORALFISH and MABFUEL), all led by Ireland, are each in receipt of grant-aid of €1 million or over. One of these projects, MABFUEL (Marine Algae as Biomass for Biofuel), is led by an SME the Daithi O'Murchu Marine Research Station Ltd., illustrating that a small innovative SME can compete successfully at the European level

- Many of the current successes are based on the very significant investments in Irish marine research infrastructures (RV *Celtic Explorer*, ROV, databouy network, seabed survey) and project-based capacity building supported under the Marine Research, Technology, Development and Innovation Measure of the NDP (2000-2006) and the current Marine Research Sub-Programme of the NDP (2007-2013).

A search of the CORDIS FP7 Projects Database (http://cordis.europa.eu/fp7/projects_en.html) using the search term *"marine"* reveals 137 current marine research projects supported under FP7.

- It is anticipated that many of the Irish success in the future FP7 years (2009-2013) will emerge from new expertise and capacities such as those being supported under the new national grant-aid schemes designed to establish critical mass in priority strategic areas: the Beaufort (Marine Research), Griffith (Geological Research) and Parson (Energy Research) Award Schemes.

- The Irish drawdown of EU grant-aid for marine research represents an impressive 10% of the Irish total drawdown over the period 2007-2008[2], though it must be noted that full figures on expenditure on the People (Marie Curie) Programme are not available.

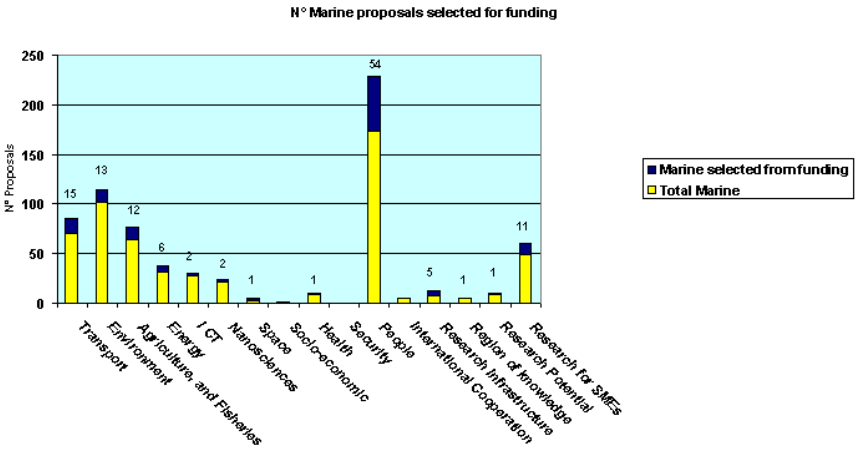



**Figure 1: Success rate of marine research proposals across FP7 Thematic Areas in 2007. Source (European Commission)**

## The Policy Context: an Integrated Maritime Policy for the European

**An Integrated Maritime Policy for the European Union (2007):** *An all embracing maritime policy aimed at developing a dynamic maritime economy in harmony with the marine environment, supported by sound marine science and technology, which allows human beings to continue to reap the rich harvest from the oceans in a sustainable manner.*

The adoption in 2007 of an *Integrated Maritime Policy for the European Union* (2007) has greatly strengthened the marine components of EU Funding Support Programmes including FP7.

Unlike previous FP Programmes, there is no specific "marine" budget line in FP7. However, thanks to the efforts of Member States, including Ireland, in the definition of the scope of FP7, *marine science and technology has been identified as a priority cross-cutting theme*. This is greatly supported by the Integrated Maritime Policy for the European Union (2007) wherein "marine science and technology" is identified as a key pillar

2 2nd Interim Report on Irish involvement in the 7th EU Framework Programme. National FP7 Support Office/Enterprise Ireland. December 2008. 16pp.

and more recently by the adoption of a European Strategy for Marine & Maritime Research (2008). Further, recognition that the development of Europe's marine resources (e.g. shipping, renewable ocean energy, marine food, marine tourism, blue biotechnology, etc) is a keystone of the European Economic Recovery Plan adds further to this.

As a result, we can now anticipate that all 10 FP7 Cooperation Themes and the three Horizontal Measures (People, Ideas and Capacities) (Annex 2) will support competitive marine research proposals.

## Links with the Irish *Sea Change* Strategy

The Irish *Sea Change* Strategy: *A Marine Knowledge, Research & Innovation Strategy for Ireland (2007-2013)* aims to bring about a transformation of the marine sector from a traditional one which is primarily associated with food harvesting to one which is multifaceted, embracing a range of new, high-value, knowledge-intensive, commercial opportunities developed in a sustainable manner.

In parallel with the Irish *Sea Change* Strategy, *the European Strategy for Marine & Maritime Research:*

- identifies the challenges and opportunities for science and technology in addressing key economic, social and environmental issues (e.g. climate change, sustainable fisheries, pollution, etc.);
- supports evidence-based policy making (e.g. ecosystem approach, maritime spatial planning, ocean governance);
- highlights new technology and knowledge-based commercial opportunities (e.g. renewable ocean energy, blue biotechnology);
- emphasises the importance of the deep-sea frontier and new innovations in ocean observation.

### Irish participation in FP6

A Directory of Irish participation in competitive marine research projects under the 6th Framework Research Programme (2002-2006), *Oceans of Opportunity-II* (Marine Institute, 2007) identifies 59 projects with Irish participation drawing down grant-aid of circa €10.6 million. These 59 projects are part of a suite of 267 collaborative marine research projects receiving grant-aid of €559 million or 3.5% of FP6 budget.

A more up-to-date report "*Marine Science and Technology Projects funded under the 6th Framework Programme of the European Community: An independent statistical analysis*" (EurOCEAN, 2009) puts number of marine projects supported by FP7 at 478 with grant-aid of €884 million or 4.9% of the FP6 budget. Differences in the number of marine projects supported lie mainly in the broader definition as to what constitutes a marine project used by EurOCEAN.

## Research Funding Opportunities

Details of International/European competitive research funding opportunities (e.g. FP7, INTERREG-IV, LIFE+ as well as Awards, Scholarships and Training Opportunities) are advertised on the Marine Institute's Website http://www.marine.ie/home/funding/.

Open calls are listed at: http://www.marine.ie/home/funding/FundingCalls/opencalls/

# **MEFEPO** - Making the European Fisheries Ecosystem Operational

### *Project Details*

| | |
|---|---|
| Funding Programme: | 7th Framework Programme (FP7) |
| Sub-Programme: | Cooperation, Theme 2: Food, Agriculture & Fisheries and Biotechnology |
| Funding Scheme: | Small to medium scale collaborative project |
| Project Duration: | 36 months (2008-2011) |
| Total Project Value: | €4.1 |
| EU Grant-Aid: | €3m |
| Funding to Ireland: | €214,958 |
| Website: | not currently available |

### *Project Description*

Since the reform of the EU Common Fisheries Policy in 2002, significant effort has been devoted to addressing the governance, scientific, social and economic issues required to introduce an ecosystem approach to European marine fisheries. Fisheries management needs to support the 'three pillars of sustainability' (ecological, social and economic). Fisheries Ecosystem Plans (FEPs) were developed to further the ecosystem approach to fisheries management and as a tool to assist managers to consider the ecological, social and economic implications of their decisions.

The core concept of the MEFEPO project is the delivery of an operational framework for three regional sea areas: the North Sea RAC, North-western Waters RAC and South-western RAC (RAC = Regional Advisory Council). MEFEPO will focus on how best to make current institutional frameworks responsive to an ecosystem approach to fisheries management at regional and pan-European levels in accordance with the principles of good governance. This will involve the integration of the considerable body of ecological, fisheries, social and economic research which has been developed in recent years. MEFEPO will also investigate how existing institutional frameworks need to evolve to incorporate this information and develop both dialogue between the disparate groups of marine stakeholders and a decision-making process which integrates a wide range of interests.

| ***Project Partners*** | |
|---|---|
| Project Coordinator | University of Liverpool (UK) |
| Ireland | Marine Institute |
| UK | Centre for Environment, Food and Rural Affairs (CEFAS). |
| Portugal | National Institute of Biological Research<br>IMAR-Instituto Do Mar |
| Netherlands | Wageningen IMARES |
| France | Universite de Bretagne Occidentale |
| Norway | Universitetet I Tromso |
| Denmark | Institute for Fisheries Management & Coastal Community Development |
| Spain | Instituto Español de Oceanografia |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# **Prevent Escape** – Assessing the causes and developing measures to prevent the escape of fish from sea-cage aquaculture

### *Project Details*

| | |
|---|---|
| Funding Programme: | 7th Framework Programme (FP7) |
| Sub-Programme: | Cooperation, Theme 2: Food, Agriculture Fisheries and Biotechnology |
| Funding Scheme: | Small to medium scale collaborative project |
| Project Duration: | 36 Months (2008-2011) |
| Total Project Value: | €3.9m |
| EU Grant-Aid: | €3m |
| Funding to Ireland: | €201,173 |
| Website: | www.sintef.no/Home/Marine/Fisheries-and-Aquaculture/Aquaculture-Technology/Aquaculture-constructions/Prevent-Escape/ |

### *Project Description*

The escape of fish from sea-cage aquaculture is perceived as a serious threat to natural biodiversity in Europe's marine waters. Escaped fish may cause undesirable genetic effects in native populations through interbreeding and ecological effects through predation, competition and the transfer of diseases to wild fish. The Prevent Escape project will conduct and integrate biological and technological research on a pan-European scale to improve recommendations and guidelines for aquaculture technologies and operational strategies that reduce escape events. Through research focused on sea-cages and their immediate surrounds, the project will:

- Assess technical and operational causes of escape incidents;
- Assess the extent of escapes of reproductive gametes and fish;
- Determine the inherent behaviours that pre-dispose certain species of fish towards escaping; and
- Document the dispersal of escapees to develop and test recapture strategies.

The project will benchmark the performance of equipment under farming conditions and improve operations and equipment production, thereby advancing national and international standards for the design, construction and use of aquaculture equipment. This will ultimately benefit the cage farming aquaculture industry through practical, achievable measures to prevent escapes and mitigate against the genetic and ecological impacts which result from farm escapes.

| *Project Partners* | |
|---|---|
| Project Coordinator | SINTEF Fiskeri og havbruk AS (Norway) |
| Ireland | Marine Institute |
| Spain | Universidad de Alicante |
| | Universidad de Las Palmas de Gran Canaria |
| | Tecnalia-AIE |
| Norway | Norweigan Institute for Nature Research (NINA) |
| | Norwegian Institute of Fisheries and Food Research (NOFIMA) |
| Greece | University of Crete |
| | Hellenic Centre of Marine Research (HCMR) |
| UK | Scottish Association for Marine Science |
| Malta | University of Malta |

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# **DeepFishMan -** Management and Monitoring of Deep-Sea Fisheries and Stocks

### *Project Details*

| | |
|---|---|
| Funding Programme: | 7th Framework Programme (FP7) |
| Sub-Programme: | Cooperation, Theme 2: Knowledge Based Bio-Economy |
| Funding Scheme: | Small to medium scale collaborative Project |
| Project Duration: | 36 months (2008-2011) |
| Total Project Value: | €3.8m |
| EU Grant-Aid: | €2.9m |
| Funding to Ireland: | €87,189 |
| Website: | not currently available |

### *Project Description*

Deepwater species pose particular difficulties for fisheries management. Deepwater stocks are difficult to assess resulting in high levels of uncertainty and potential for overfishing. DEEPFISHMAN will develop a range of strategy options for the management of deepwater fisheries for particular species in the NE Atlantic that will take account of these factors. The project will firstly identify new and more effective assessment methods, reference points, control rules and management strategies to be used in the short term, making better use of available data. Secondly, a long-term framework will be developed for which additional data needs will be specified in order to fill current information gaps and to achieve reliable long-term management requirements.

This work will involve a range of case studies selected to reflect the diverse characteristics of the different types of deepwater fishery found in the NE Atlantic. In addition, two case studies outside the NE Atlantic are selected to give a wider perception of the management and monitoring of deepwater fisheries elsewhere in the world. For each case study, current problems with assessment or management will be identified and new methods will be developed and tested. Recommendations for future methods and approaches will be made. The socio-economic profile and projected impact of the management strategy options, as applied both through a short- and long-term framework, will be examined for selected fisheries. In this way the project outputs will aim to provide robust guidelines for deepwater fisheries management suitable for adoption within the Common Fisheries Policy.

### *Project Partners*

| Project Coordinator | Ifremer (France) |
|---|---|
| Ireland | Marine Institute |
| UK | Centre for Environ, Food & Rural Affairs through CEFAS |
| | Imperial College of Science, Technology and Medicine |
| | University of Portsmouth Higher Education Corporation |
| Iceland | University of Iceland |
| | Hafrannsoknastofnun (Marine Research Insitiute) |
| Spain | Fundation AZTI – AZTI Fundazioa |
| | Instituto Español de Oceangrafia |
| Norway | Institute of Marine Research |
| Namibia | National Marine and Information Research Centre |
| Portugal | INBR-IPIMAR National Institute of Biological Resources |
| Greece | Hellenic Center for Marine Research |

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# **CORES**– Components for Ocean Renewable Energy Systems

### *Project Details*

| | |
|---|---|
| Funding Programme: | 7th Framework Programme (FP7) |
| Sub-Programme: | Cooperation, Theme 5: Energy |
| Funding Scheme: | Small to medium scale collaborative project |
| Project Duration: | 36 months (2008-2011) |
| Total Project Value: | €4.5m |
| EU Grant-Aid: | €3.4m |
| Funding to Ireland: | €1,251,966 |
| Website: | http://www.fp7-cores.eu/ |

### *Project Description*

**CORES** is an FP7 European collaborative research project focusing on new components and concepts for ocean energy convertors.

First generation wave energy devices have been deployed at the shoreline and normally consist of Oscillating Water Column Systems. In order for these systems to progress towards full commercial realisation they must develop into units suited to mass production. This project follows successful FP6 funding in which several fixed Oscillating Water Column Wave Energy Convertors (OWC WECs) were developed to demonstration level. These systems are now evolving from fixed to floating devices in deeper water, further offshore.

The CORES project will concentrate on the development of new concepts and components for power-take-off, control, moorings, risers, data acquisition and instrumentation based on floating OWC systems. The components and concepts developed will have relevance to other floating device types. The impacts of the project will be focused on reducing technical and non-technical risk in the marine environment as well as reducing the cost per kWh of generated energy.

The new components and concepts will be tested on a floating OWC test platform at sea and these real, validated and verified results will be integrated into a holistic system model. This model will provide a Toolbox for wave to wire simulations of complete WEC systems. The Marine Institute Galway Bay Test site is the location for the field test of the project.

| ***Project Partners*** | |
|---|---|
| Project Coordinator | University College Cork (Ireland) |
| Ireland | Marine Computation Services Ltd |
| | Ocean Energy Ltd |
| | University of Limerick |
| Portugal | Instituto Superior Técnico |
| | KYMANER- Technologias Energéticas, Lda |
| | Wave Energy Center-Centro de Energia das Ondas |
| UK | Queens University Belfast |
| | University of Exeter |
| Denmark | Aalborg Universitet |
| Germany | Institut für Solare Energieversorgungstechnik e.V. |
| Spain | Fundacion Robotiker |
| Italy | Alma Mater Studiorum Universitá di Bologna |


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# **EquiMar**– Equitable Testing and Evaluation of Marine Energy Extraction Devices in terms of Performance, Cost and Environmental Impact

### *Project Details*

| | |
|---|---|
| Funding Programme: | 7th Framework Programme (FP7) |
| Sub-Programme: | Cooperation, Theme 5: Energy |
| Funding Scheme: | Small to medium scale collaborative project |
| Project Duration: | 36 Months (2008-2011) |
| Total Project Value: | €5.5m |
| EU Grant-Aid: | €4m |
| Funding to Ireland: | €304,000 |
| Website: | www.equimar.eu |

### *Project Description*

The aim of **EquiMar** is to deliver a suite of protocols for the equitable evaluation of marine energy converters (based on either tidal or wave energy). These protocols will harmonize testing and evaluation procedures across the wide variety of devices presently available with the aim of accelerating adoption through technology matching and improved understanding of the environmental and economic impacts associated with the deployment of arrays of devices.

**EquiMar** will assess devices through a suite of protocols covering site selection, device engineering design, scaling up of designs, deployment of arrays of devices, environmental impact, in terms of both biological & coastal processes, and economic issues.

A series of protocols will be developed through a robust, auditable process and disseminated to the wider community. Results from the **EquiMar** project will help to establish a sound base for future marine energy standards and will feed into the standards process being coordinated under the IEC Technical Committee 114.

**EquiMar** is a collaborative FP7 research and development project involving a consortium of 23 partners from 11 member states, representing nearly all aspects of the marine energy sector from universities and developers through to certification agencies.

### *Project Partners*

| | |
|---|---|
| Project Coordinator | The University of Edinburgh (UK) |
| Ireland | University College Cork |
| UK | University of Strathclyde |
| | University of Exeter |
| | University of Manchester |
| | University of Southampton |
| | Ocean Power Delivery Limited |
| | European Marine Energy Centre |
| | Sea Mammal Research Unit, University of St. Andrews |
| | Scottish Association for Marine Science |
| | Feisty Productions Ltd |
| Denmark | Wave Dragon Aps |
| | Aalborg University |
| | Ramboll Danmarks /AS |
| France | Electricité de France –SA |
| | Ifremer |
| | Actimar S.A.S |

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| | |
|---|---|
| Belgium | European Ocean Energy Association |
| Portugal | Wave Energy Centre- Centro do Energia das Ondas |
| Italy | Consiglio Nazionale Delle Ricerche (CNR) |
| Norway | Det Norske Veritas A/S |
| Netherlands | Teamwork Technology BV |
| Spain | Fundacion Robotiker |
| Sweden | Uppsala University |

# **CoralFISH** – Assessment of the interaction between corals, fish and fisheries in order to develop monitoring and predictive modelling tools for ecosystem based management in the deep waters of Europe and beyond

### *Project Details*

| | |
|---|---|
| Funding Programme: | 7th Framework Programme (FP7) |
| Sub-Programme: | Cooperation, Theme 6: Environment (including Climate Change) |
| Funding Scheme: | Large-scale integrating project |
| Project Duration: | 48 months (2008-2012) |
| Total Project Value: | €10,885,692 |
| EU Grant-Aid: | €6,499,906 |
| Funding to Ireland: | €1,076,494 |
| Website: | http://www.eu-fp7-coralfish.net/ |

### *Project Description*

The CoralFISH project will assess the interaction between corals, fish and fisheries, in order to develop monitoring and predictive modeling tools for ecosystem based management in the deep waters of Europe and beyond.

The rationale for CoralFISH is based on the need to address UN General Assembly Resolution 61/105 (2006) which calls on fisheries management organisations worldwide to assess the impact of bottom fishing on vulnerable marine ecosystems, identify and map vulnerable ecosystems and develop conservation and management measures prevent their degradation.

In European deep waters there is also a need to establish monitoring tools to evaluate the effectiveness of closed areas for the conservation of biodiversity and fish and their impact on fisheries. Two FP6 projects (PROTECT, HERMES) have already identified the need for information concerning the interaction between fish and cold water coral habitats.

CoralFISH brings together a unique consortium of deep-sea fisheries biologists, ecosystem researchers/modellers, economists and a fishing industry SME, who will collaborate to collect data from key European marine eco-regions. The consortium numbers 16 partners from 10 countries.

| ***Project Partners*** | |
|---|---|
| Project Coordinator | National University of Ireland Galway (Ireland) |
| Ireland | O'Malley Fisheries |
| | University College Cork |
| UK | Zoological Society of London, Institute of Zoology |
| | The University Court of the University of Aberdeen |
| Norway | Institute of Marine Research |
| | Universitetet i Tromso |
| Netherlands | Koninklijke Nederlandse Akademie van Wetenschappen – Nederlands Instituut voor Ecologie |
| | Sticht ing Koninklijk Nederlands Instituut voor Onderzoek der Zee |
| Germany | Friedrich-Alexander - Universität Erlangen-Nürnberg |
| | Universität Bremen |
| Iceland | Marine Research Institute (Hafrannsóknastofnunin) |
| France | Institut Français de Recherche pour l'Exploitation de la Mer |
| Portugal | Instituto do Mar -Centros dos Açores, Departmento de Oceanografia e Pescas |
| Greece | Hellenic Centre for Marine Research |
| Italy | Consorzio Nazionale Interuniversitario per le Scienze del Mare |


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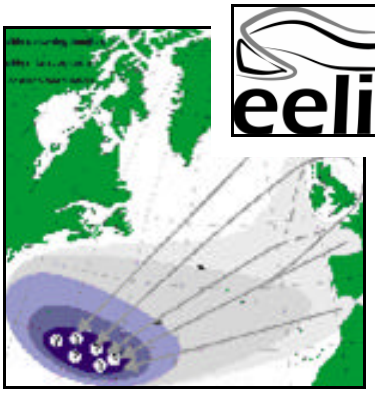
# **EELIAD** – European Eels in the Atlantic: Assessment of Their Decline

### *Project Details*

| | |
|---|---|
| Funding Programme: | 7th Framework Programme (FP7) |
| Sub-Programme: | Cooperation, Theme 6: Environment (including Climate Change) |
| Funding Scheme: | Small to medium scale collaborative project |
| Project Duration: | 48 months (2008-2012) |
| Total Project Value: | €4m |
| EU Grant-Aid: | €2.6m |
| Funding to Ireland: | €112,809 |
| Website: | http://www.eeliad.com/ |



### *Project Description*

***EELIAD*** is a research initiative to investigate the ecology and biology of European eels. The information gained will be integrated into models to determine the most important factors that influence silver eel production and migration success. The fulfillment of this objective will provide a means to evaluate the likely success of the EU Eel Recovery Plan, to enable management actions to be most effectively directed to enhance and conserve eel stocks across Europe, and to determine the dynamics of eel population structure and reproductive success.

Field studies on migration routes, behaviour and spawning, will be supported by the use of cutting edge biotechnological analyses to determine population structure, and innovative modeling approaches that will incorporate these data into fishery management models. EELIED will link with other groups and projects, such as INDICANG (a network of monitoring programmes that report on the status and the development of eel populations over the Atlantic Area) and the joint EIFAC/ICES Working Group on Eel.

The knowledge gained from the **EELIAD** project, aside from its scientific significance, will be of direct use to the conservation of eel stocks as it will help to clarify the reasons for the recent decline in the stock. This information will then be used to change and improve the way that eel fisheries and habitats are managed across Europe, and to help ensure that enough silver eels migrate to their spawning grounds to reproduce and sustain the species.

| *Project Partners* | |
|---|---|
| Project Coordinator | Sec. State for Env, Food& Rural Affairs Centre Env., Fish & Aquaculture Science (CEFAS)(UK) |
| Ireland | Marine Institute |
| | Central Fisheries Board |
| France | Ifremer |
| | Centre for Agricultural and Environmental Engineering Research (Cemagref) |
| | Muséum National d'Histoire Naturelle |
| | Laboratoire de Mathématiques Appliquées (UPPA_LMA) |
| | Laboratoire de Biologie et d'Ecologie Tropicale et Mediterraneenne (LBETM) |
| Denmark | Dept of Inland Fisheries, Danish Institute of Fisheries Research |
| Norway | Norwegian Institute for Nature Research |
| Sweden | Swedish Board of Fisheries |
| Spain | Consejo Superior de Investigaciones Científicas |

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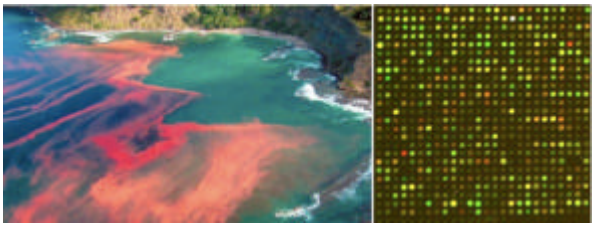
# **MIDTAL –** Microarrays for the Detection of Toxic Algae

### *Project Details*

| | |
|---|---|
| Funding Programme: | 7th Framework Programme (FP7) |
| Sub-Programme: | Cooperation, Theme 6: Environment (including Climate Change) |
| Funding Scheme: | Small to medium scale collaborative project |
| Project Duration: | 45 Months (2008-2012) |
| Total Project Value: | €4.3m |
| EU Grant-Aid: | €2.2m |
| Funding to Ireland: | €248,300 |
| Website: | www.midtal.com |



### *Project Description*

Microalgae in marine and brackish waters of Europe regularly cause "harmful effects", considered from the human perspective, in that they threaten public health and cause economic damage to fisheries and tourism. Cyanobacteria cause similar problems in freshwaters. These episodes encompass a broad range of phenomena collectively referred to as «harmful algal blooms» (HABs). They include discoloration of waters by mass occurrences of microalgae (true algal blooms that may or may not be «harmful») to toxin-producing species that may be harmful even in low cell concentrations. A broad classification of HAB distinguishes three groups of toxic organisms. For adequate management of these phenomena, monitoring of microalgae is required. However, the effectiveness of monitoring programmes is limited by the fact that it is time consuming and morphology as determined by light microscopy may be insufficient to give definitive species and toxin attribution. Once cell numbers reach a threshold level, then shellfish are selected to toxin analysis by the mouse bioassay. The mouse bioassay is continued on a daily basis until no more toxin is detected. Molecular and biochemical methods are now available that offer rapid means of both species and toxin detection.

In this project we will target rapid species identification using rRNA genes as the target. We include antibodies to specific toxins because even when cell numbers are very low, the toxins can be present and can be accumulated in the shellfish. Microarrays are the state of the art technology in molecular biology for the processing of bulk samples for detection of target RNA/DNA sequences.

The purpose of **MIDTAL** is to support the common fisheries policy to aid the national monitoring agencies by providing new rapid tools for the identification of toxic algae and their toxins so that they can comply with ECC directive 91/1491/CEE that can be converted to cell numbers and reduce the need for the mouse bioassay.

| *Project Partners* | |
|---|---|
| Project Coordinator | AWI (Germany) |
| Ireland | National University of Ireland, Galway |
| Spain | Instituto Español de Oceanografia |
| | Instituto Tecnolóxico para o Control do Medio Mariño de Galicia |
| Italy | Stazione Zoologica Anton Dohrn |
| Sweden | University of Kalmar |
| Norway | University of Oslo |
| UK | University of Westminster |
| Denmark | Toxispot A/S |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# **SALSEA-Merge** – Advancing understanding of Atlantic salmon at Sea: Merging genetics and ecology to resolve stock-specific migration and distribution patterns

### *Project Details*

| | |
|---|---|
| Funding Programme: | 7th Framework Programme (FP7) |
| Sub-Programme: | Cooperation, Theme 6: Environment (including Climate Change) |
| Funding Scheme: | Small to medium scale collaborative project |
| Project Duration: | 36 Months (2008-2011) |
| Total Project Value: | €5.6m |
| EU Grant-Aid: | €3.5m |
| Funding to Ireland: | €767,753 |
| Website: | www.salmonatsea.com |

### *Project Description*

North Atlantic salmon have declined significantly in the past twenty years largely resulting from unexplained mortalities at sea. For the increasing efforts in salmon conservation to be successful, it will be necessary to gain a better understanding of how stocks of salmon from different regions and rivers vary in growth, condition and survival. These variations can be linked to different migration patterns and ecology during the marine phase of the life-cycle. Until now, it has not been possible to sample sufficient salmon during their oceanic phase to provide answers to these questions.

SALSEA-Merge is an ambitious international project to investigate the migration and distribution of salmon in the North-East Atlantic. It will involve three marine surveys in both 2008 and 2009 that will be conducted by Irish, Faroese and Norwegian research vessels. The origin of the sampled fish will be determined using the latest genetic stock identification techniques.

SALSEA-Merge will improve our knowledge of oceanic-scale ecological and ecosystem processes which might impact on salmon survival. Through a partnership of fourteen institutes from nine European countries, the programme will deliver innovation in the areas of: genetic stock identification techniques, new genetic marker development, fine scale estimates of growth on a weekly and monthly basis, the use of novel high seas pelagic trawling technology and individual stock linked estimates of food and feeding patterns. The use of the three-dimensional Regional Ocean Modeling System, merging hydrography, oceanographic, genetic and ecological data, will deliver novel stock-specific migration and distribution models. Uniquely the programme is also supported by five non contracting parties who have donated significant financial support (>€400,000) and technical expertise to the initiative. SALSEA-Merge forms part of a wider SALSEA programme involving partners from the US and Canada (www.salmonatsea.com).

| *Project Partners* | |
|---|---|
| Project Coordinator | Institute of Marine Research, Norway |
| Ireland | Marine Institute |
| | University College Cork |
| UK | Fisheries Research Services (FRS) |
| | University of Exeter |
| | Queen's University Belfast |
| | University of Wales, Swansea |
| Finland | University of Turku |
| | Finnish Game and Fisheries Research Institute |
| Norway | Norwegian Institute for Nature Research |
| Denmark | Technical University of Denmark, DTU-Aqua |
| Iceland | Institute of Freshwater Fisheries |
| Spain | University of Oviedo |
| France | GENINDEXE |

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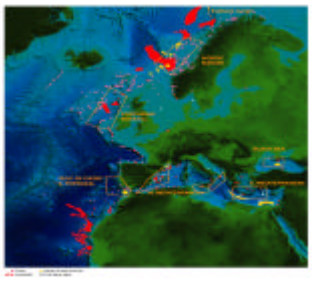
# **HERMIONE**– Hotspot Ecosystem Research and Man's Impact on European Seas

### *Project Details*

| | |
|---|---|
| Funding Programme: | 7th Framework Programme (FP7) |
| Sub-Programme: | Cooperation, Theme 6: Environment (including Climate Change) |
| Funding Scheme: | Small to medium scale collaborative project |
| Project Duration: | 36 Months (2009-2012) |
| Total Project Value: | €10,884,787 |
| EU Grant-Aid: | €7,998,955 |
| Funding to Ireland: | €262,164 |
| Website: | http://www.eu-hermione.net |



### *Project Description*

The **HERMIONE** project is designed to make a major advance in the knowledge of the functioning of deep-sea ecosystems and their contribution to the production of goods and services. This will be achieved through a highly interdisciplinary approach (including biologists, ecologists, microbiologists, biogeochemists, sedimentologists, physical oceanographers, modelers and socio-economists) that will integrate biodiversity, specific adaptations and biological capacity in the context of a wide range of highly vulnerable deep-sea habitats. Gaining this understanding is crucial, because these ecosystems are now being affected by climate change and impacted by man through fishing, resource extraction, seabed installations and pollution.

To design and implement effective governance strategies and management plans we must understand the extent, natural dynamics and interconnection of ocean ecosystems and integrate socio-economic research with natural science. The study sites include the Arctic, North Atlantic and Mediterranean and cover a range of ecosystems including cold-water corals, canyons, cold and hot seeps, seamounts and open slopes and deep-basins. The project will make strong connections between deep-sea science and user needs. HERMIONE will enhance the education and public perception of the deep-ocean issues also through some of the major EU aquaria. These actions, together with GEOSS databases that will be made available, will create a platform for discussion between a range of stakeholders, and contribute to EU environmental policies.

### *Project Partners*

| Project Coordinator | Natural Environment Research Council (UK) |
|---|---|
| Ireland | National University of Ireland, Galway |
| | University College Cork |
| UK | Cardiff University |
| | University of Southampton |
| | The University Court of the University of Aberdeen |
| | The University of Liverpool |
| | Scottish Association for Marine Science |
| | National Marine Aquarium, Plymouth |
| Germany | Leibniz-Institut für Meereswissenschaften |
| | Alfred-Wegener-Institut Für Polar- und Meeresforschung |
| | Friedrick-Alexander Universitaet Erlangen-Nuremberg |
| | Max-Planck-Gesellschaft zur Förderung der Wissenschaften e.V. |
| | Jacobs University Bremen GmbH |
| | MARUM, University Bremen |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| | |
|---|---|
| | ArchimediX, Mockl & Munzel Gesellschaft burgerlichen Rechts (GbR) |
| France | Ifremer |
| | Centre National de la Recherce Scientifique (CNRS) |
| | Université Pierre et Marie Curie – Paris 6 |
| Spain | Universitat de Barcelona |
| | Consejo Superior de Investigaciones Científicas |
| | MEDIAN SCP |
| Italy | Consiglio Nazionale delle Richerche |
| | Consorzio Nazionale Interuniversitario per le Scienze del Mare |
| | Costa Edutainment SpA – Acquario di Genova |
| Portugal | Instituto Hidriografico |
| | Universidade de Averio |
| | Universidade dos Açores |
| Netherlands | Stichting Koninkjilk Nederlands Instituut voor Zeederzoek |
| | Koninklijke Nederlandse Akademie Van Wetenschappen |
| Greece | Hellenic Centre for Marine Research |
| | University of Thessaly |
| Norway | Universitetet i Tromso |
| | Havforskningsinstituttet (Institute of Marine Research) |
| Belgium | Universiteit Gent |
| Sweden | Göteborgs Universitet |
| Russia | P.P. Shirshov Institute of Oceanology – Russian Academy of Sciences |
| United Nations | UN Environment Programme- World Conservation Monitoring Centre |

# **MESMA**– Monitoring and Evaluation of Spatially Managed Areas

### *Project Details*

| | |
|---|---|
| Funding Programme: | 7th Framework Programme (FP7) |
| Sub-Programme: | Cooperation, Theme 6: Environment (including Climate Change) |
| Funding Scheme: | Large Scale integrating project |
| Project Duration: | 48 Months (2008-2012) |
| Total Project Value: | €8.4m |
| EU Grant-Aid: | €6.6m |
| Funding to Ireland: | €325,069 |
| Website: | not currently available |

E.Dwyer, CMRC

### *Project Description*

The increasing pressures upon the marine realm call for a well planned approach of further spatial development of this area. An ecosystem-based approach to fisheries, the increasing demand for sustainable energy, coastal defense systems, building materials and safe transport routes and the need to protect habitats and species all compete for the same valuable space. At the same time climate change will alter the composition and functioning of marine ecosystems, calling for a robust approach of future spatial planning that also takes cross boundary developments into account.

**MESMA** will supply innovative methods and integrated strategies for governments, local authorities, stakeholders and other managerial bodies for planning and decision making at different local, national and European scales. This will also comprise an easy accessible information system to gain support from politicians, stakeholders and the public in general for difficult (inter)national decisions that will be needed for sustainable use and protection of this vulnerable area. This data system, containing information on the distribution of habitats and species, economic values and benefits and human uses and its effects will also be an interface between science, policy and decision makers.

**MESMA** will supply strategic tools for sustainable development of European seas and coastal areas. The major challenge is to combine an optimized use with a sustained ecosystem of high quality, taking into account ecological and economic differences. By studying and comparing different national situations and solutions from a selected number of sites throughout Europe and by determining common features and differences, including the socio-economic settings and requirements, an integrated toolbox that can be applied on both a European and a regional scale will be made available.

| *Project Partners* | |
|---|---|
| Project Coordinator | Wageningen IMARES B.V. (Netherlands) |
| Ireland | CMRC, University College Cork |
| Netherlands | Nederlandse Organisatie voor Toegepast Natuurwetenschappelijk Onderzoek TNO |
| | Stichting Deltares Deltares |
| | Wageningen IMARES |
| UK | University College London |
| | Sec State for Environ, Food & Rural affairs through CEFAS |
| | Heriot-Watt University |
| Norway | Norsk Regnesentral Stiftelse Norsk Institutt for Vannforskning |
| | Havforskningsinstituttet IMR |
| Belgium | Universiteit Gent |
| | Vlaams Gewest VlaGew |
| Germany | Senckenbergische Naturforschende Gesellschaft |


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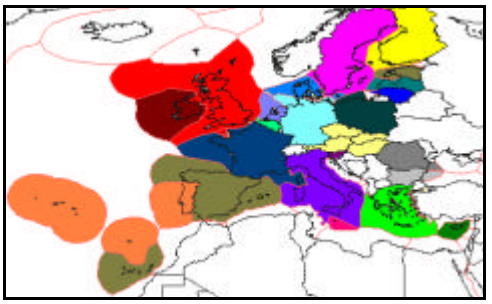
| | |
|---|---|
| Greece | Hellenic Center for Marine Research |
| Bulgaria | Institute of Oceanology, Bulgarian Academy of Sciences |
| Italy | Consiglio Nazionale Delle Recherché |
| Spain | Fundacion AZTI- AZTI Fundazioa |
| Malta | Ministry for Rural Affairs and the Environment |
| Denmark | Technical University of Denmark |

# **KnowSeas** – Knowledge-based Sustainable Management for Europe's Seas

### *Project Details*

| | |
|---|---|
| Funding Programme: | 7th Framework Programme (FP7) |
| Sub-Programme: | Cooperation, Theme 6: Environment (including Climate Change) |
| Funding Scheme: | Large scale integrating project |
| Project Duration: | 48 months (2008-2012) |
| Total Project Value: | €7.3m |
| EU Grant-Aid: | €5.8m |
| Funding to Ireland: | €128,341 |
| Website: | not currently available |



### *Project Description*

Europe's four regional seas (Baltic, Black, Mediterranean and NE Atlantic) have suffered severe environmental degradation due to human pressure. Existing measures to manage pressures have proven inadequate and the EC has responded by proposing a new policy (Maritime Strategy Blue Book) and environmental legislation (Marine Strategy Directive), both currently close to adoption. These instruments rely on the *Ecosystem Approach*, a management paradigm that encompasses humans and the supporting ecosystem. But the science base for this approach needs strengthening and practical tools must be developed and tested for policy implementation. In particular, criteria for assessing costs and benefits of management actions are poorly developed, particularly in the complex marine environment where multiple uses and management conflicts are common.

The **KnowSeas** consortium will strengthen the science base for managing Europe's seas through the practical application of systems thinking. It will work at the two scales envisaged for emergent EU policy: the Regional Sea Scale and Member State Economic Exclusive Zones (EEZs). It will develop a new approach of Decision Space Analysis to investigate mismatches of scale. Knowledge created through the FP6 European Lifestyles and Marine Ecosystems project, augmented with necessary new studies of climate effects, fisheries and maritime industries - in EEZ case studies - will provide a basis for assessing changes to natural systems and their human causes. New research will examine and model economic and social impacts of changes to ecosystem goods and services and costs and benefits of various management options available through existing and proposed policy instruments. Institutional and social analysis will determine conflicts of interest and examine governance as well as stakeholder values and perceptions. **KnowSeas** research will develop and test an assessment toolbox through regional liaison groups and a multisectoral Project Advisory Board.

| *Project Partners* | |
|---|---|
| Project Coordinator | University of Plymouth, UK |
| Ireland | CMRC, University College Cork |
| UK | Center for Environment, Fisheries & Aquaculture |
| | Envision Management Ltd. |
| | Institute for European Environmental Policy |
| | Sir Alistair Hardy Foundation for Ocean Science |
| | Scottish Association for Marine Science |
| | University of East Anglia |
| | University of Bath |
| Netherlands | Deltares |
| | EUCC0 The Coastal Union |
| | Royal Netherlands Academy of Arts and Sciences |
| | Vereniging voor christelijk hoger onderwijs, wetenschappelijk onderzoek en patientenzorg |

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| | |
|---|---|
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| | University of Padua |
| | Universitá Ca' Foscari di Venezia |
| Norway | Norsk institutt for Luftforskning |
| | Universitetet I Bergen |
| Germany | Alfred-Wegener-Institut fuer Polar-und Meeresforschung |
| | GKSS-Forschungszentrum Geesthacht GmbH |
| Portugal | Instituto do Mar |
| | Megapesca Lda |
| Bulgaria | Institute of Oceanology, Bulgarian Academy of Sciences |
| Turkey | Middle East Technical University |
| Sweden | Stockholm's universitet |
| Denmark | University of Southern Denmark |
| Spain | Consejo Superior de Investigaciones Científicas |
| Poland | Morski Instytut Rybacki, Sea Fisheries Institute |
| Finland | Suomen ymparistokeskus |
| France | Universite de Bretagne Occidentale |

# **PROPS**– Promotional Platform for Short Sea Shipping and Intermodality

### *Project Details*

| | |
|---|---|
| Funding Programme: | 7th Framework Programme (FP7) |
| Sub-Programme: | Cooperation, Theme 7: Transport |
| Funding Scheme: | Small to medium scale collaborative project |
| Project Duration: | 36 Months (2008-2011) |
| Total Project Value: | €2.5m |
| EU Grant-Aid: | €2.5m |
| Funding to Ireland: | €320,078 |
| Website: | http://www.props-sss.eu/ |

### *Project Description*

The PROPS Coordination Action builds on previous EU and national activities undertaken to promote and develop short sea shipping individually and as part of multi modal logistic chains. The goal is increased use of short sea shipping, leading to modal shift from long-haul road freight to sea supporting the sustainable development of European transport.

PROPS aims at working closely with the Short Sea Promotion Centres (SPCs) to develop practical tools to assist with their promotional activities and with extending their operations to encompass inter-modal and co-modal transport.

PROPS will introduce an effective methodology to support intermodal stakeholders achieve the quality of services that end-users require and to confidently market these services throughout Europe. The elements comprising the methodology are:

- a set of *Strategic Supports* addressing competitive, operational and marketing strategies to convince shippers to shift to SSS services and to provide persuasive material that will enable a promotional campaign to improve the image of SSS;
- a set of *Tactical Supports* that facilitate the implementation of SSS promotion strategies;
- a set of *SPC-specific Supports* aimed at increased efficiency of SPCs, focusing on processes for collaboration between SPCs and managing performance and risk indicators.

### *Project Partners*

| Project Coordinator | Alliance of Maritime Regional Interest in Europe (AMRIE) |
|---|---|
| Ireland | Nautical Enterprise Ltd |
| | Irish Exporters Association |
| UK | Sea and Water |
| | Inklecom Systems Ltd. |
| | Bell Pottinger Group |
| Spain | Port Authority of Gijon |
| | Compañía Trasmediterránea |
| Finland | University of Turku |
| Bulgaria | Bulgarian Shortsea Promotion Centre |
| Norway | Norsk Marinteknisk Forskningsinstitutt AS |
| Portugal | TIS.pt, Consultores em Transportes, Invação e Sistemas, SA |
| Greece | University of Piraeus Research Centre |
| | K-net Consultancies Services, Educational and Commercial Company |
| Italy | ELSAG S.p.A. |
| Germany | Senator für Wirtschaft und Häfen, Bundesland Bremen |

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# **SKEMA**– Sustainable Knowledge Platform for the European Maritime and Logistics Industry

### *Project Details*

| | |
|---|---|
| Funding Programme: | 7th Framework Programme (FP7) |
| Sub-Programme: | Cooperation, Theme 7: Transport |
| Funding Scheme: | Coordination and Support Action |
| Project Duration: | 36 Months (2008-2011) |
| Total Project Value: | €2.3m |
| EU Grant-Aid: | €2.3m |
| Funding to Ireland: | €401,042 |
| Website: | http://www.skematransport.eu/ |

### *Project Description*

**SKEMA** is a three year project funded by the European Commission - DGTREN under the Seventh Framework Programme. It is aimed at establishing a Sustainable Knowledge Platform for the use of stakeholders in the Maritime Transport & Logistics industry.

The **SKEMA** Knowledge Platform will contain a Knowledge Base that will be populated by project Studies and outputs from workshops and case studies addressing key challenges for the European maritime transport and logistics industry. The Studies will be constructed to facilitate improved usability and accessibility of valuable results from previous projects, studies & publications.

**SKEMA** will:

- facilitate the exchange of information amongst stakeholders in the European maritime transport and logistics industry, raise awareness of relevant research, provide overview and detailed information on current technologies and best practices at European, regional and national levels;
- assist in the recognition of obstacles that hinder the implementation of European policies and in proposing and assessing solutions;
- provide base material that will help in the formulation of advice on various policy initiatives, such as legislation, (including simplification), standardisation, research, networking and co-operation between administrations.

### *Project Partners*

| | |
|---|---|
| Project Coordinator | Athens University of Economics and Business Research Centre (Greece) |
| Ireland | Nautical Enterprise Ltd |
| | Irish Exporters Association |
| | Dublin Port Company |
| UK | INLECOM Systems Ltd |
| | Sea and Water |
| Sweden | Chalmwea tekniska hoegskola AB |
| | Oresund Logistics |
| Spain | Portel Servicios telematicos, S.A. |
| | Compania Transmediterranea |
| Netherlands | Centre for the Development of Transport and Logistics in Europe |
| Finland | Valtion teknillinen tutkimiskesus |
| Cyprus | EBOS Technologies Ltd. |
| Latvia | Maritime Administration of Latvia |

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# **AZIPILOT**– Intuitive operation and pilot training when using marine azimuthing control devices

### *Project Details*

| | |
|---|---|
| Funding Programme: | 7th Framework Programme (FP7) |
| Sub-Programme: | Cooperation, Theme 7: Transport |
| Funding Scheme: | Coordination and Support Action |
| Project Duration: | 36 Months (2008-2011) |
| Total Project Value: | €1.5m |
| EU Grant-Aid: | €1.5m |
| Funding to Ireland: | €88,558 |
| Website: | See www.transas.com |

### *Project Description*

The aim of **AZIPILOT** is to improve, by policy and design, the operational safety and security of ships equipped with 'azimuthing' control devices such as pod-drives. This aim will be achieved by more closely aligning the man-machine interfaces of azimuthing equipment, with the actual training of maritime pilots and crews in its use. AZIPILOT brings together the key industry sectors responsible for the design and testing of such equipment, e.g. those involved in simulation and training and the pilots and crews that actually operate azimuthing equipped ships. The project provides a forum for cross-disciplinary discussion between the key industry sectors specifically:

- Specialists in HYDRODYNAMIC MODELLING and testing (both theoretical and experimental) and experts in the field of azimuthing control devices.
- Designers and Manufacturers of MARINE SIMULATION software, hardware and the physical models that are used for training marine pilots and crews to use azimuthing equipment. This group encapsulates designers, human factors specialists, manufacturers of automation and control systems, joystick systems, and graphical user interfaces.
- MARITIME TRAINING facilities as users of simulation tools to train pilots and crews, and who employ specialists in the theory and practice of human factors (physical & behavioral), and experts in the training of bridge-crews and pilots.
- OPERATIONAL PRACTICE professionals including maritime pilots, ship operators & managers, pilot associations and end-users, and Maritime Authorities, Regulators and Policy Makers.

| ***Project Partners*** | |
|---|---|
| Project Coordinator | University of Newcastle-Upon-Tyne (UK) |
| Ireland | Transas Ltd |
| UK | BMT SeaTech Ltd |
| | South Tyneside College |
| | Newcastle University, School of Marine Science & Technology |
| Sweden | Brostöm Ship Management AB |
| | SSPA Sweden AB |
| Poland | Centrum Techniki Okretowej Spolka Akcyjna |
| | Foundation for Safety of Navigation and Environment Protection |
| France | METTLE SARL |
| | SOGREAH Consultants – Port Revel |
| Italy | Consorzio Armatori per la Ricerca SRL |
| Germany | Development Centre for Ship Technology and Transport Systems |
| Denmark | FORCE Technology |
| Netherlands | STC Group |

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www.transas.com

# **E-freight –** European e-freight capabilities for Co-modal transport

### *Project Details*

| | |
|---|---|
| Funding Programme: | 7th Framework Programme (FP7) |
| Sub-Programme: | Cooperation, Theme 7: Transport |
| Funding Scheme: | Large - scale integrating project |
| Project Duration: | 2009-2011 (36months) |
| Total Project Value: | €13.1m |
| EU Grant-Aid: | €8.4m |
| Funding to Ireland: | €631,588 |
| Website: | not currently available |

### *Project Description*

The E-Freight project will facilitate the use of different transport modes on their own and in combination to obtain an optimal and sustainable utilisation of European resources. With the help of e-Freight:

- Transport users (shippers, freight forwarders, etc) will be able to identify and use direct or combined transport services most suited for their purpose.
- Transport service providers in all modes will provide information about their service offerings and exchange information electronically with all relevant actors through planning, executing and completing transport operations.
- Transport infrastructure providers will be able to facilitate the best possible use of the complete transport infrastructure and support transport users by providing relevant information about the available transport infrastructure and how to use it.
- Transport administrations will be able to obtain in the simplest possible way the required information for monitoring compliance with applicable regulations, and to exchange information with other authorities for collaboration in security and environmental risk management.

### *Project Partners*

| | |
|---|---|
| Project Coordinator | BMT Group Ltd, Uk |
| Ireland | Nautical Enterprises Centre |
| | Chartered Institute of Logistics and Transport |
| | Port of Cork |
| Greece | Prodos S.A. Hellenic & International Transport Co |
| | Centre of Research and Technology Hellas |
| | K-NET S.A. |
| | Horama, Markleting & Engineering Services S.A. |
| | Transeuropean Consultants for Transport, development and Information Technology S.A. |
| Netherlands | Port infolink b.v. |
| | Centre for the development for Transport and Logistics in Europe |
| | Mobycon |
| Norway | Marlo A.S. |
| | Norsk Marinteknisk Forskningsinstitutt A.S. |
| | Borregaard |
| Germany | Institut fur Seeverkehrswirtschaft und Logistik |
| | PTV Panung Transport Verkehr AG |
| | Allround Container Service Hemut Frank GmbH |
| Austria | Universitaet Innsbruck |

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www.necl.ie

| | |
|---|---|
| | Österreichische Wasserstraßen-Gesellschaft |
| | Rail Cargo Austria AG |
| Portugal | FordesiConsultoria e Inovacao S.A. |
| | Servico Portugues de Contentores |
| Latvia | Maritime Administration of Latvia |
| | Ventspils Free Port Authority |
| UK | INKLECOM Systems LTD |
| | MJC2 Ltd |
| Finland | Valtion teknillinen tutkimuskeskus |
| Hungary | Budapest University of Technology and Economics |
| Bulgaria | Transexpress Ltd |
| Belgium | Sequoyah NV |
| Cyprus | EBOS Technologies Ltd |
| Spain | Port Authority of Valencia |

# **MyOcean –** Development and pre-operational validation of upgraded GMES Marine Core Services and Capacities

### *Project Details*

| | |
|---|---|
| Funding Programme: | 7th Framework Programme (FP7) |
| Sub-Programme: | Cooperation, Theme 9: Space |
| Funding Scheme: | Large – scale integrating project |
| Project Duration: | 48 Months (2009-2013) |
| Total Project Value: | €55m |
| EU Grant-Aid: | €33.8m |
| Funding to Ireland: | €287,600 |
| Website: | http://www.myocean.eu.org |

### *Project Description*

The MyOcean project brings together a consortium of 60 partners in 28 countries to set up an integrated, pan-European capacity for ocean monitoring and forecasting**,** using the existing competences and resources at national level. Currently every member state has its own capacities in oceanography, at global or regional scale, but the organisations, the procedures and the operational levels are extremely variable from one country to another.

The « **Marine Core Service »** will be **operational** from March 2009:

- **Operational** (i.e. regular and systematic) delivery of reference information on the state of the oceans and European regional seas,
- **High resolution** products with assessed **quality** and **accuracy**,
- **Open and free** for all kind of users and applications (including commercial),
- A **unique desk** (24/7/365) for all kind of products and requests,
- **Secured, simple and fast delivery** (viewing, discovering, downloading).

MyOcean is the implementation of the **MARINE CORE SERVICE**, one of three GMES (Global Monitoring for Environment and Security) "Fast Track Services". **GMES** is a joint initiative of the European Commission and the European Space Agency designed to establish a European capacity for the provision and use of operational information for Global Monitoring of Environment and Security. The areas which will directly benefit from the successful implementation of MyOcean are: Maritime Security, Oil Spill combat, Marine Resources management, Climate Change, Seasonal Forecast, Coastal Activities, Ice Survey and Water Quality and Pollution.

### *Project Partners*

| | |
|---|---|
| Project Coordinator | GIP MERCATOR OCEAN (France) |
| Ireland | TechWorks Marine Ltd |
| UK | Met Office |
| | Natural Environment Research Council |
| | Plymouth Marine Laboratory |
| | University of Reading |
| | HR Wallingford |
| | Centre for Environment, Food and Rural Affairs (CEFAS) |
| | University of Plymouth Higher Education |
| | ECMWF |
| | British Antarctic Survey |
| Italy | Instituto Nazionale di Geofisica e Vulcanologia |
| | Consiglio Nazionale Delle Ricerche |
| | Ente per le Nuove Tecnologie, l'Energia e l'Ambiente |
| | Istituto Nazionale di Oceanografia e di Geofisica Sperimentale |
| | Ufficio Stato Maggiore Aeronautica |

### ***Irish Contact***

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Web: www.techworks.ie

| | |
|---|---|
| | Agenzia per la Protezione dell'Ambiente e per i servizi tecnici |
| | Centro Euro-Mediterraneo per I Cambiamenti Climatici |
| France | Collecte Localisation Satellites |
| | Ifremer |
| | Météo-France |
| | Centre Nationale de la Recherche Scientifique |
| | ACRI-ST |
| Norway | Nansen Environmental and Remote Sensing Centre |
| | Meteorologisk institutt |
| | Institute of Marine Research |
| | Norsk Institutt for Vannforskning |
| Denmark | Danish Meterological Institute |
| | Danish National Space Centre (DTU Space) |
| | University of Aarhus (NERI) |
| | Technical University of Denmark (DTU-DIFRES) |
| Germany | Bundesamt fur Seeschifffahrt und Hydrographie |
| | Brockmann Consult |
| | IFM-GEOMAR |
| Spain | Puertos del Estado |
| | Consejo Superior de Investigaciones Científicas. |
| | Starlab Barcelona S.L. |
| Greece | Hellenic Centre for Marine Research |
| | Institute of Accelerating Systems and Applications (UAT) |
| Portugal | Empresa de Servicios e Desenvolvimiento de Software (EDISOFT) |
| | Instituto Superior Técnico |
| Finland | Finnish Institute of Marine Research |
| | Suomen ymparistokeskus (SYKE) |
| Russia | Artic and Antarctic Research Institute |
| | Scientific Foundation NIERSC |
| Sweden | Swedish Meteorological and Hydrological Institute |
| Morocco | Institut National de Recherche Halieutique |
| Netherlands | Koninklijk Nederlands Meteorologisch Instituut |
| Bulgaria | Institute of Oceanology, Bulgarian Academy of Sciences |
| Cyprus | Oceanography Centre, University of Cyprus |
| Estonia | Tallina Tehnikaulikool Meresüsteemide Instituut |
| EU Commission | Joint Research Centre |
| Israel | Israel Oceanographic & Liminological Research |
| Malta | University of Malta IOI-POU |
| Ukraine | Marine Hydrophysical Institute (NASU) |
| Romania | National Institute for Marine Research and Development |
| Belgium | Royal Belgian Institute of Natural Sciences - MUMM |
| Slovenia | National Institute of Biology MBS |
| Latvia | University of Latvia |
| Lithuania | Center of Marine Research |
| Poland | Maritime Institute Gdansk |
| Canada | Fisheries and Oceans (DFO) |

# **Euro Argo** - Global Ocean Observing Infrastructure

### *Project Details*

| | |
|---|---|
| Funding Programme: | 7th Framework Programme (FP7) |
| Sub-Programme: | Capacities: Research Infrastructures |
| Project Duration: | 30 months (2008-2010) |
| Total Project Value: | €4.21m |
| EU Grant-Aid: | €3m |
| Funding to Ireland: | €116,000 |
| Website: | www.euro-argo.eu |

### *Project Description*

Euro-Argo is a major European component of the world-wide in situ global ocean observing system (GOOS) and, in particular, the global Argo Programme. The Argo objective is to develop a global array of approximately 3000 autonomous Argo profiling floats (spaced 300 km apart, on average) throughout the ice-free areas of the deep ocean. The floats are battery powered, with a design life of between 3 and 5 years. The 3000 float target was reached in 2007 but approximately 800 floats must continue be deployed globally each year to maintain the target array. Temperature and salinity data collected from surface depth to 2000m are transmitted in real time by satellite to data centres for processing, management, and distribution. The main objective of the Euro-Argo preparatory phase is to undertake the work needed to ensure that by 2010 Europe will be able to:

- Deploy, maintain and operate an array of 800 floats. This will require Europe to deploy 250 floats per annum worldwide.
- Provide a world-class service to the research (climate) and environment monitoring (e.g. GMES) communities.

This project will consolidate and broaden the present European participation in Argo and will develop further Europe's role in leading global ocean observations and in ocean and climate research. By providing adequate networking and cooperation between member states, it will give an increased visibility to the large contribution made by Europe to Argo and will contribute to the development of European excellence in Argo-related research.

| ***Project Partners*** | |
|---|---|
| Project Coordinator | IFREMER (France) |
| Ireland | MI - Marine Institute |
| Germany | BSH - Federal Maritime and Hydrographic Agency |
| | DM - Konsortium Deutsche Meeresforschung |
| UK | NERC- Natural Environment Research Council |
| | UKMO - Met Office |
| Italy | OGS - Istituto Nazionale di Oceanografia e di Geofisica Sperimentale |
| France | SHOM - Service Hydrographique et Océanographique de la Marine |
| Portugal | FFCUL - Fundacao da Faculdade de Ciencias da Universidade de Lisboa |
| Greece | HCMR - Hellenic Centre for Marine Research |
| Poland | IOPAS - Institute of Oceanology Polish Academy of Sciences |
| Netherlands | KNMI - Royal Netherlands Meteorological Institute |
| Spain | IEO - Instituto Español de Oceanografia |
| Norway | IMR - Institute of Marine Research |
| Bulgaria | USOF - University of Sofia |

***Irish Contacts:***

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E: fiona.grant@marine.ie

# **EMSO**– European Multidisciplinary Seas Observation

### *Project Details*

| | |
|---|---|
| Funding Programme: | 7th Framework Programme (FP7) |
| Sub-Programme: | Capacities, Theme: Research Infrastructures |
| Funding Scheme: | Preparatory Phase project |
| Project Duration: | 48 months (2008-2012) |
| Total Project Value: | €5.4m |
| EU Grant-Aid: | €3.9m |
| Funding to Ireland: | €390,000 |
| Website: | http://www.emso-eu.org/ |

### *Project Description*

Through the EMSO project, twelve deep sea-floor observatories are planned for specific European offshore sites to allow continuous monitoring for environment and security. Seafloor observatories are defined as unmanned systems, at fixed sites, of instruments, sensors, and command modules connected to land, either acoustically, or via a seafloor junction box to a surface buoy or a fibre-optic cable. One of the EMSO seafloor observatories is called **Celtnet** and is planned for the Porcupine Basin off Ireland.

The basic scientific objective of EMSO is to make possible real-time, long-term monitoring of environmental processes in the geosphere, biosphere and hydrosphere of European seas. Major advances in our understanding of environmental processes require that we identify temporal evolution and cyclic changes and capture episodic events with respect to oceanic circulation, deep-sea processes and ecosystems evolution.

Establishing a network of seafloor observatories will require strong collaboration at European level to overcome national fragmentation. The EMSO observatories will be organised in a unique European management structure and form a key component of GMES (Global Monitoring for Environment and Security) and GEOSS (Global Earth Observation System of Systems).

| ***Project Partners*** | |
|---|---|
| Project Coordinator | Istituto Nazionale di Geofisica e Vulcanologia (Italy) |
| Ireland | Marine Institute |
| UK | National Oceanography Centre, Southampton |
| France | Ifremer |
| Germany | German Marine Research Consortium (KDM) |
| Greece | Hellenic Centre for Marine Research |
| Norway | University of Tromsö |
| Sweden | Göteborg University |
| Netherlands | Royal Netherlands Institut e for Sea Research |
| Portugal | Fundacao para a Ciencia e a Tecnología (FCT) |
| Spain | Unidad de Tecnologia Marina del Consejo Superior de Investigaciones Cientificas (UTM-CSIC) |
| Turkey | Istanbul Teknik Universitesi |


***Irish Contacts:***

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E: fiona.grant@marine.ie

# **EUROFLEETS -** Towards an Alliance of European Research fleets

### *Project Details*

| | |
|---|---|
| Funding Programme: | 7th Framework Programme (FP7) |
| Sub-Programme: | Capacities, Theme: Research Infrastructures |
| Project Duration: | 48 months (2008-2012) |
| Indicative Project Value: | €9,057,000 |
| EU Grant-Aid: | €7.2 |
| Funding to Ireland: | €516,387 |
| Website: | not currently available |

### *Project Description*

The quality of the infrastructures available for marine research directly affects European research performance. Marine research infrastructures are, therefore, considered key elements of the European Strategy for Marine Research. A coherent pan-European approach with enhanced partnership in investment, development and usage of fleets, will have a significant impact to better meet the diverse needs of European marine research.

The EUROFLEETS project will bring together European research fleet Managers to enhance their coordination and promote the cost-effective use of their vessels and associated infrastructures. It will support research services for the monitoring and sustainable management of regional seas and the oceans and will facilitate common access for European scientists on the basis of scientific excellence.

Specifically, EUROFLEETS aims to:

- Develop a common procurement strategy and build a roadmap for better integration of the European research fleet;
- Reorganise, through an e-platform, the way that the research vessels are operated and enhance their interoperability capacities;
- Utilise the existing European fleets and associated equipment with much greater efficiency in the frame of the European Research Area;
- Promote greener and more sustainable research vessels and underwater vehicles;
- Provide European marine researchers with access to nineteen high performing research vessels from fifteen different countries;
- Foster coordinated and joint development of European fleets, thanks to new interoperable software and underwater vehicle payloads;
- Develop training and education at sea;
- Promote innovative e-access; and
- Participate in European efforts to retain the highest international standing with respect to marine research.

| ***Project Partners*** | |
|---|---|
| Project Coordinator | Ifremer (France) |
| Ireland | Marine Institute |
| France | Institut Polaire Français Paul Emile Victor (IPEV) |
| Germany | Alfred-Wegener-Institut Für Polar- und Meeresforschung |
| | Max-Planck-Gesellschaft zur Förderung der Wissenschaften e.V. Universität Bremen |
| Spain | Instituto Español de Oceanografia<br>Consejo Superior de Investigaciones Científicas |

| | |
|---|---|
| Greece | Hellenic Centre for Marine Research (HCMR) |
| UK | Natural Environment Research Council (NERC) |
| Portugal | Fundacao para Ciencea e a Tecnologica |
| | EurOcean Foundation |
| Turkey | Orta Dogu Teknik Universitesi Deniz Bilimleri Enstitusu |
| Romania | National Institute of Marine Geology and Geoecology |
| Italy | Istituto Nazionale di Oceanografia e di Geofisica Sperimentale |
| | Consiglio Nazionale delle Richerche |
| Netherlands | Wageningen IMARES B.V. |
| | Mariene Infomatie Service MARIS BV |
| Belgium | Royal Belgian Institute of Natural Sciences (Vlaams Instituut voor de Zee) |
| | Vlaams Instituut voor de Zee |
| Poland | Institute of Oceanology of the Polish Academy of Sciences |
| Bulgaria | Institiute of Oceanology |
| Estonia | Tallinna Tehnikaulikool |
| Norway | Institute of Marine Research |

***Irish Contacts***

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# **SUDEVAB** – Sustainable development of European SME's engaged in abalone aquaculture

### *Project Details*

| | |
|---|---|
| Funding Programme: | 7th Framework Programme (FP7) |
| Sub-Programme: | Capacities: Research for SME's |
| Project Duration: | 24 Months (2008-2010) |
| Total Project Value: | €1.25m |
| EU Grant-Aid: | €972,498 |
| Funding to Ireland: | €110,000 |
| Website: | www.sudevab.com/www.sudevab.eu |

### *Project Description*

SUDEVAB brings together SMEs and leading RTD providers from the abalone aquaculture sector in Europe with the aim of developing sustainable abalone aquaculture. Abalone have long been considered a potential candidate for European aquaculture. However, while abalone aquaculture in other parts of the world has surged ahead, European production has been restricted by the lack of reasonably priced juveniles, technological problems, and legislative issues.

The core of the research work of SUDEVAB is aimed at solving the main technical problems encountered by abalone growers in Europe in the areas of; pathology, genetics, nutrition, and sustainable culture technology. However, for a sustainable abalone sector to develop, producers and regulators must also meet challenges in legislation, hygiene, food safety and marketing. These issues are integrated within the research programme to maximise the impact of the project. For the long term benefit of the sector, the project will also establish an abalone producers' organisation that will serve as a network, dissemination point and hub for future collaboration within the sector, allowing trans-national development and marketing support to continue beyond the lifetime of the project.

| *Project Partners* | |
|---|---|
| Project Coordinator | Aqua-gold Fisheries (GmbH) (Germany) |
| Ireland | Martin Ryan Institute, National University of Ireland, Galway |
| Ireland and Channel Islands | Jersey Sea Farms |
| France | France Haliotis S.C.E.A. |
| | Centre National de Recherche Scientifique (CNRS) |
| | Ifremer |
| Spain | Servimar Norte S.L. |
| | Instituto Español de Oceanografía (IEO) |
| | Grupo de Investigación en Acuicultura (Gran Canaria) |
| UK | South-West Abalone Growers Association (SWAGA) |
| ***Sub-contractors*** | |
| Belgium / France | Federation of European Aquaculture Producers |
| Ireland | Tower Aqua Products Ltd |
| Germany | Sylter Algenfarm |

### ***Irish Contact***

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stefan.kraan@seaweed.ie
Anna.soler@nuigalway.ie

# **MABFUEL** – Marine Algae as Biomass for Biofuel

### *Project Details*

| | |
|---|---|
| Funding Programme: | 7th Framework Programme (FP7) |
| Sub-Programme: | People |
| Funding Scheme: | Industry-Academia Partnerships and Pathways (IAPP) |
| Project Duration: | 48 Months (2008-2012) |
| Total Project Value: | €1.4m |
| EU Grant-Aid: | €1.4m |
| Funding to Ireland: | €1m |
| Website: | not currently available |

### *Project Description*

The main aim of this project is to investigate the feasibility of using algae (micro and/or macro) as a feedstock for producing bio-fuels in Ireland and Turkey. The yield of oil from algae is estimated to be 7 to 31 times greater than the next best crop (oil of palm) and micro-algae, in particular, have much faster growth-rates than terrestrial crops. As terrestrial contributions are greatly limited by the finite area of land available under any culture method, it is essential that the potential of the marine environment as a source of biomass for bio-fuel production is realised.

The Mabfuel project will review the global state-of-the-art in the extraction of biofuel products from algae with a focus on species, methodologies, yield and culture methods for algal feedstocks. Practical research and technology transfer will focus on developing optimal methods to extract oil from algal biomass and on intensive large-scale culture methods for micro-algal species in indoor and outdoor facilities. The project will also assess environmental, social and economic risks and benefits of the bio-fuel products developed. This will include an economic model for viable, industrial-scale production and identification of knowledge gaps and commercialisation pathways.

| *Project Partners* | |
|---|---|
| Project Coordinator | Daithi O'Murchu Marine Research Station, Ireland |
| Ireland | Green Biofuels Ireland Ltd |
| | Dundalk Institute of Technology |
| UK | Queen's University Belfast |
| | Dolphin Sea Vegetables |
| Turkey | Gaziantep University |
| | Ege University |

***Irish Partners***

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# ANNEX 1: Indicative list of Irish participants in FP7 marine projects

| Participant | Number of Projects |
|---|---|
| Central Fisheries Board | 1 |
| Chartered Institute of Logistics and Transport | 1 |
| Daithi O'Murchu Marine Research Station Ltd | 1 |
| Dublin Port Company | 1 |
| Dundalk Institute of Technology | 1 |
| Green Biofuels Ireland Ltd | 1 |
| Irish Exporters Association | 1 |
| Marine Computation Services Ltd | 1 |
| Marine Institute | 8 |
| National University of Ireland, Galway | 5 |
| Nautical Enterprise Ltd | 3 |
| O'Malley Fisheries Ltd | 1 |
| Ocean Energy Ltd | 1 |
| Port of Cork | 1 |
| TechWorks Marine Ltd | 1 |
| Tower Aqua Products Ltd | 1 |
| Transas Ltd | 1 |
| University of Limerick | 1 |
| University College Cork | 7 |

## ANNEX 2: The FP7 Programme Structure

<table>
<tr><td rowspan="10">C<br>O<br><br>O<br>P<br>E<br>R<br>A<br>T<br>I<br>O<br>N</td><td>1. Health</td><td>IDEAS</td><td>European Research Council</td></tr>
<tr><td>2. Food, Agriculture, Fisheries and Biotechnology</td><td rowspan="2">PEOPLE</td><td rowspan="2">Initial training<br><br>Life-long training<br><br>Industry-Academia<br><br>International co-operation</td></tr>
<tr><td>3. Information and Communications Technologies</td></tr>
<tr><td>4. Nanosciences, nanotechnologies materials and new production technologies</td><td rowspan="5">CAPACITIES</td><td rowspan="5">Research Infrastructures<br><br>Research for SMEs<br><br>Regions of knowledge<br><br>Research Potential<br><br>Science & Society<br><br>Development of Research Policies<br><br>International Co-Operation</td></tr>
<tr><td>5. Energy</td></tr>
<tr><td>6. Environment including Climate Change</td></tr>
<tr><td>7. Transport</td></tr>
<tr><td>8. Socio-Economic sciences and humanities</td></tr>
<tr><td rowspan="2">9. Security<br><br>10. Space</td><td colspan="2" rowspan="2">Non-Nuclear Actions by the Joint Research Centre</td></tr>
</table>

Marine science and technology is a *priority cross-cutting theme in FP7*.

# NOTES

**International Co-Operation Programme / European Research Funding Desk**
**Strategic Planning & Development Services (SPDS)**
**Marine Institute**
**Rinville,**
**Oranmore,**
**Co. Galway,**
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**www.marine.ie**